ABSTRACT OF THE INVENTION

A low bit rate phase excited linear prediction type speech encoder filters a speech signal to limit its bandwidth and then fragments the filtered speech signal into speech segments. The speech segments are decomposed into a spectral envelope and an LP residual signal. The spectral envelope is represented by LP filter coefficients. The LP filter coefficients are converted into line spectral frequencies (LSF). Each speech segment is also classified as one of a voiced segment and an unvoiced segment based on a pitch of the segment. Parameters are extracted from the LP residual signal, where for an unvoiced segment the extracted parameters include pitch and gain and for a voiced segment the extracted parameters include pitch, gain and excitation level. The extracted parameters are then quantized.

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